

## GENERATIONAL DIFFERENCES IN THE IMAGE OF TEXT-BASED ONLINE COUNSELING: TEXT ANALYSIS WITH DEEP LEARNING TECHNOLOGY

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Text-based online counseling services are rapidly spreading, especially among younger generations. However, previous research on text-based online counseling is limited to young users in Western countries. Given its potential utility for broader populations, description of the public image of the service is necessary to reach broader populations. The current study aimed to describe public images of text-based online counseling in Japan, focusing on generational differences. An online survey asked Japanese participants ( $N = 614$ ) from a wide age range ( $M = 41.77$ ;  $SD = 11.98$ ,  $range = 20$  to  $76$ ) to freely describe their image and impressions of “SNS counseling,” the Japanese term for text-based counseling. We quantified each description with the Bidirectional Encoder Representations from Transformers (BERT) algorithm, a deep learning technology for natural language processing. We explored the components of images of text-based online counseling that linearly correlate with age. The main result indicated that the image of text-based online counseling among younger participants clustered around *lightness*, with both positive and negative connotations. Younger participants regarded text-based online counseling as easy to access but less serious. The image of text-based online counseling among older participants indicated that they were anxious about not being able to see the “face” of the counselor, and were concerned about security and privacy.

**Key words:** text-based online counseling, SNS counseling, accessibility, generational difference, text analysis, deep learning, BERT

Text-based online counseling is a type of online chat-based psychological counseling service. It is typically implemented as a public mental health service targeting younger generations because young people are assumed to be familiar with instant messaging services such as WhatsApp, and because text messages and online chat platforms are assumed to be useful tools for reaching young people (Budinger et al., 2015; Crutzen & de Nooijer, 2011; Dowling & Rickwood, 2016; Dwyer et al., 2021; Eckert et al., 2022; Evans et al., 2013; Gibson & Cartwright, 2014; Navarro et al., 2019; Nesmith, 2018; Rickwood et al., 2016; Sugihara & Miyata, 2018; Thompson et al., 2018). Research

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about text-based online counseling has covered various topics, including awareness of and engagement with the service, the nature of problems faced by young people, and factors related to the implementation of the service (Mathieu et al., 2021). Although the service appears to be useful to youth and most research has investigated the experiences of young people, it is also potentially useful to broader populations. It provides (physically) safer counseling in the context of the COVID-19 pandemic since it does not require in-person communication. It also has potential to reach people in rural areas who have less physical access to counseling services (Dwyer et al., 2021). Given its potential utility to broader populations, it is important to survey not only younger generations but also older generations, most of whom are not thought of as potential users.

In order to reach broader populations, surveys on the public image of text-based online counseling are important because they provide useful information to increase awareness about and use of text-based online counseling, and ultimately improve public mental health (Crutzen & de Nooijer, 2011). Previous research has revealed the reasons adolescents and young adults use the service. Younger users perceive text-based online counseling as safe and feel protected because of their anonymity. They feel less exposed, less judged, and less ashamed, and therefore able to be more honest and increase self-disclosure (Evans et al., 2013; Gibson & Cartwright, 2014; King et al., 2006; Navarro et al., 2019). This feeling of safety also includes a sense of mitigated emotional intensity brought about by text-based communication, such as feeling that they would not be seen crying or be able to perceive their counselor's boredom or criticism (King et al., 2006; Navarro et al., 2019). Protection from stigma is also a perceived advantage of text-based online counseling, given that parents, peers, and school teachers would not know about their usage of the service (Gibson & Cartwright, 2014; King et al., 2006; Navarro et al., 2019). Accessibility is also a key reason to use the service. Text-based online counseling is considered to be easy to use because young people are familiar with text-based online communication and have flexibility in terms of when they use the service (Evans et al., 2013; Gibson & Cartwright, 2014; King et al., 2006; Navarro et al., 2019). This positive image and perceived advantages of the service among young people are consistent with the assumption that text-based online counseling is suitable for the youth. However, to our knowledge, the samples used in these studies are mostly restricted to young users (but see Budinger et al., 2015; Eckert et al., 2022). It is not clear whether the service is also suitable for use by older generations and why non-users do not want to use the service. Indeed, even users sometimes have concerns about confidentiality, such as fear of being secretly monitored by parents and teachers (Evans et al., 2013). Such concerns may be underestimated if only users of the service are surveyed. Non-users, including members of older populations, are likely to have a different image of text-based online counseling that may prevent them from using the service. Therefore, the current study aimed to examine the public image of text-based online counseling among broader populations and aimed to describe generational differences in this image.

Culture is another important issue in the samples used in previous research. Psychology in general is built on data from so-called WEIRD (Western, Educated, Industrialized, Rich, and Democratic) samples, and these samples substantially differ

from the rest of the world (Henrich et al., 2010). This sampling bias appears to be even stronger in the study of online counseling/mental health services. A review of 52 English articles on online counseling/mental health services for youth revealed that only four included non-WEIRD countries and none of the four surveyed the image of text-based online counseling (Mathieu et al., 2021). By nature, text-based online counseling services are embedded in social systems such as the public health system, information infrastructure systems, and the school system in any society. Social systems differ among different cultures and societies. At a more intangible level, culturally valued self-construals and social relationships differ in the context of daily life (Markus & Kitayama, 1991), and are also reflected in clinical psychological contexts (Konakawa, 2020; Roesler et al., 2021; see also Konakawa et al., 2023). Images of text-based online counseling are likely to differ in different cultures because they reflect these general cultural differences. Indigenous research on the image of text-based online counseling is necessary to develop culturally tailored interventions for increasing awareness about and use of this service, and ultimately improve public mental health. Therefore, the current study collected data from a Japanese sample, a population that is underrepresented in previous research. In the next section, we describe the situation of text-based online counseling in Japan.

In Japan, text-based online counseling is called “SNS counseling” because it is typically delivered via a social networking service (SNS) called LINE, which is similar to WhatsApp. Similar to other societies, as of 2021, teenagers and people in their 20s in Japan use SNS as their main daily communication channel, even more often than emails (Institute for Information and Communications Policy, 2022). Telephone-based crisis lines are, therefore, no longer effective for younger generations. For the telephone line, Yokohama Inochinodenwa, 45% of phone calls were from those who were younger than 30 years old in 1982, but only 4.6% and 4.7% were from the same age group in 2020 and 2021 respectively (Hasegawa & Yokohama Inochinodenwa Chosa Kenkyu Bu, 1990; Yokohama Inochinodenwa, 2021, 2022). In addition, text-based counseling in Japan has always been discussed along with the problems that SNS brings about. Most striking was the incident that happened in Zama, a city in Kanagawa, Japan. In 2017, a criminal contacted several adolescents who expressed suicidal ideation via SNS (Twitter) and murdered nine of them (Sugihara & Miyata, 2018; *Zamashi ni okeru jiken no saihatsuboshi ni kansuru kanteikakuryokaigi*, 2017). This incident garnered societal and governmental attention. Government action was taken to implement SNS counseling in Japan so as to make SNS a suicide prevention tool (Sugihara & Miyata, 2018; *Zamashi ni okeru jiken no saihatsuboshi ni kansuru kanteikakuryokaigi*, 2017). Since the first implementation of SNS counseling in 2017, SNS counseling is becoming one of the channels through which mental health services can be accessed (Sugihara, 2022). The service is supported by various stakeholders such as the Ministry of Education, Culture, Sports, Science and Technology, the Ministry of Health, Labour, and Welfare, the Cabinet Office, the Cabinet Secretariat, municipal governments, nonprofit organizations (NPOs), and schools (Sugihara, 2022). Some services have more general goals of counseling and consultation, and others have more specific targets such as suicide prevention, bullying (for children), child abuse, sexual assault, domestic violence, and

COVID related issues (e.g., Cabinet Secretariat, 2022).

Although SNS counseling is rapidly spreading in Japan and has the potential to reach wider populations in need, the awareness of the service in Japan is low compared to other mental health services. Among a sample with wider age range (*range* = 20–76 years) recruited online (Hatanaka, 2022): only 0.8% had used SNS counseling, 34% (including service users) knew what the service was like, 17% and 23% of respondents had used psychological counseling and psychosomatic medicine/psychiatry<sup>1</sup> respectively, and 86% and 91% knew what these respective services are like. Describing accessibility and barriers to access among the Japanese sample, Hatanaka (2022) also reported generational differences in the images of SNS counseling. When asked to respond using rating scales, a somewhat linear age-related trend was observed. Younger generations (the minimum age was 20), compared with older generations, reported less hesitation and more ease in using SNS counseling. People in their 20s reported higher likelihood of using SNS counseling in the future than older generations. Hatanaka also analyzed free descriptions of the image of SNS counseling generated by people of all generations and compared these with the image of more traditional psychological counseling. Overall, without considering generational differences, “lightness” (e.g., ease of use and lower hurdle to use) was a more prevalent image of SNS counseling than psychological counseling, while reluctance to use was similar for SNS counseling and psychological counseling. Reliability and trustworthiness were also a dimension that differentiated SNS counseling from psychological counseling. Participants reported more anxiety, and a greater variety of concerns, about SNS counseling. They were more concerned about the expertise of the counselor, not being able to see the “face” of the counselor, information security issues, and the quality of communication. The image of psychological counseling was more focused on the psycho-therapeutic aspect, conversation and communication, and expertise of the counselor. The last dimension was related to perceived utility and effectiveness. SNS counseling was considered to be much less effective or necessary than psychological counseling. Psychological counseling was also considered to be influenced by individual differences in the skills of, and compatibility with, counselors compared to SNS counseling.

This series of analyses by Hatanaka (2022) clearly demonstrated that there are generational differences in the image of SNS counseling by using rating scales. Hatanaka also demonstrated that analysis of free descriptions can provide rich information and deeper, more nuanced insight into the image of SNS counseling in comparison to psychological counseling. However, more specific generational differences in the image of SNS counseling are still not clear because generational differences in free descriptions of the image of SNS counseling were not analyzed. The current study aimed to describe generational differences in the image of SNS counseling by analyzing the same data set as Hatanaka. The current study specifically aimed to extract generational differences in

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<sup>1</sup> In Japan, mental health services are provided by qualified psychologists or by medical doctors as a form of medical treatment. The latter is called psychosomatic medicine/psychiatry (心療内科・精神科). Even though the services provided by each party overlap with each other to some extent, people may have different images of them.

the image of SNS counseling from the free descriptions in the data set. Generational differences in the image of SNS counseling were also compared with those of more traditional psychological counseling and psychosomatic medicine/psychiatry to clarify the specificity of the image of SNS counseling. To quantify the free descriptions, the current study utilized a machine-based analysis of the text.

### *Machine-Based Text Analysis*

Text data, such as free descriptions, potentially provide richer information than more regularly used scale-based ratings. While a scale-based rating only provides information on presupposed dimensions (i.e., a scale can only measure the dimension that it is designed to measure), text data may contain information that the researcher did not expect. Such exploratory data collection is more important when investigating newer and less investigated concepts such as the image of SNS counseling. However, the shortcoming of text analysis is its cost. The text is typically coded by human coders. The coding process and training given to coders is time consuming. Even after training, there remains a somewhat subjective process that might threaten the reliability of the analysis. Therefore, text analysis is not always cost-effective even if it provides rich information. To overcome this limitation, the current study utilized machine-based text analysis. The text was quantified using Bidirectional Encoder Representations from Transformers (BERT), a state-of-the-art deep learning technology for natural language processing (Liu et al., 2019; Vaswani et al., 2017).

BERT is a deep learning model for text. The model is trained to learn representations that enable it to fill in masked word(s) in a given text using other word(s) in the text. The model is typically trained with a large corpus (e.g., the entire set of text from Wikipedia), and successfully trained models are able to process (e.g., infer the words in) even a new untrained text. In this sense, the trained model “understands” and quantitatively represents the meaning of sentences in the trained language. The model represents each text as a form of vector that contains meaning information (for a more cognitive-scientific discussion of vector-based semantics and sentence meaning, see Elman, 1990; Griffiths et al., 2007; Landauer & Dumais, 1997; McClelland et al., 2020). We used the text vector from a pretrained model to analyze generational differences in the image of different mental health services.

This vector-based approach can be understood as analogous to the approach that represents and analyzes individual differences in people. In typical individual differences research (e.g., Kosinski et al., 2013), a set of variables are measured for each participant and assumed to represent the personality of each person. In other words, each person is represented by a vector of many variables. The variables (i.e., components of the vector) are then assessed in terms of their relations to other external variables such as age. The same logic and analysis were applied to the text in the current study. Each text response was represented as a vector and each component was tested for its correlation with age (of the writer) to quantitatively examine generational differences. Since the current study is exploratory and descriptive, we did not have any a priori hypothesis about detailed generational differences in images of the different mental health services.

## METHOD

### Participants

Participants were recruited via the online crowdsourcing site Lancers (<https://www.lancers.jp>), which is similar to Amazon Mechanical Turk. To balance the age distribution, we aimed to recruit 150 participants from each of the following age groups: 20s, 30s, 40s, 50s, and 60s or older. Recruitment for each age group was terminated once the number of participants in each age group reached the target number (i.e., 150) or when six days had passed since the start of recruitment. As a result, 684 participants were recruited with a relatively balanced age distribution. Participants were excluded from the analysis if: (1) they did not complete the survey, (2) the age group (e.g., 20s) they were recruited as part of and their reported age (e.g., 43) were not compatible with each other,<sup>2</sup> (3) they failed one or more attention check item(s), which were designed to screen out arbitrary or inattentive participants, (e.g., “please select ‘completely disagree’ for this item”), or (4) they provided an impossible answer for one or more items. The final sample included 614 participants (20s<sup>3</sup>: 127, 30s: 147, 40s: 147, 50s: 147, and 60s or older: 46;  $M_{\text{age}} = 41.77$ ;  $SD_{\text{age}} = 11.98$ ,  $\text{age range} = 20$  to 76). There were 324 males, 287 females, and three participants who selected “other” as their gender. All participants provided informed consent and were paid 350 JPY for completing the survey that took approximately 20 minutes.

### Materials

The survey was a part of a larger questionnaire survey (98 questions; the full set of materials is available from [https://osf.io/rw6vp/?view\\_only=e3bc8579c60a4c9ca482ede86520f554](https://osf.io/rw6vp/?view_only=e3bc8579c60a4c9ca482ede86520f554)). The following questions were analyzed in the current study.

For the image of SNS counseling, the following instruction was used to prompt the free description: “SNS相談 (LINE相談)・SNSカウンセリング (LINE相談)とは、LINEなどのSNSを用いてチャット形式で心理相談・心理カウンセリングを行うことです。SNS相談やSNSカウンセリングにどのような印象を持っていますか？上記の説明を読んで、またこれまでにあなたが見聞きしたり経験したりしたことを元にして、自由にお書きください。” (“SNS consultation [LINE consultation] and SNS counseling [LINE consultation] are psychological consultation and psychological counseling in chat format using SNS such as LINE. What are your impressions of SNS consultation and SNS counseling? Please write freely based on the above explanation and what you have seen, heard, or experienced so far.”)

For the image of psychological counseling, the following instruction was used to prompt the free description: “心理相談や心理カウンセリングにどのような印象を持っていますか？これまでにあなたが見聞きしたり経験したりしたことを元にして、自由にお書きください。” (“What is your impression of psychological consultation and psychological counseling? Please write freely based on what you have seen, heard, or experienced.”)

For the image of psychosomatic medicine/psychiatry, the following instruction was used to prompt the free description: “心療内科・精神科にどのような印象を持っていますか？これまでにあなたが見聞きしたり経験したりしたことを元にして、自由にお書きください。” (“What is your impression of psychosomatic medicine/psychiatry? Please write freely based on what you have seen, heard, or experienced.”)

The measured demographic variables are summarized in Table 1. These variables were included in follow-up analyses (see “Follow-up analyses of generational differences”).

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<sup>2</sup> Unlike other online survey recruitment platforms such as Prolific, Lancers is a general-purpose crowdsourcing site. It does not have a function to prescreen participants based on age or other variables. We simultaneously ran five different surveys, each of which asked participants to answer the survey if they were in the to-be-recruited age group (e.g., 20s) so that we could collect a balanced number (i.e., ideally 150) of participants from each age group. Some participants reported an age that was not compatible with the to-be-recruited age. Since the reliability of the responses from those participants was low, we excluded their data from the analysis.

<sup>3</sup> It should be noted that we did not recruit participants from a population of users of SNS counseling but rather from the general-purpose crowdsourcing site Lancers. Therefore, the number of participants for each generation partly reflects the potential pool of participants on Lancers. This constraint might be reflected by the relative under-sampling of participants in their 20s and over 60 years old.

Table 1. List of Demographic Variables

Demographic variables	Options/Range	Instructions
Use of LINE	Never use it (1) – Always use it (5)	“How often do you use each of the following SNS for personal use?”
Use of Instagram	Never use it (1) – Always use it (5)	“How often do you use each of the following SNS for personal use?”
Use of Facebook	Never use it (1) – Always use it (5)	“How often do you use each of the following SNS for personal use?”
Use of Twitter	Never use it (1) – Always use it (5)	“How often do you use each of the following SNS for personal use?”
Gender	Male, Female, Other	
Age		
Employment Status	Student, Full-time employment, Part-time employment, Self-employed/freelancer, Stay-at-home father/mother, Unemployed, Other	
Marital Status	Unmarried [don’t have a romantic partner], Unmarried [have a romantic partner], Married, Divorced/Widowed, Other	
Prefecture of Residence		
Residential Mobility	Numerical value	“Since starting elementary school, how many times have you moved home to a different city or town?” (cf. Oishi, 2010)

### Procedures

Upon accessing the survey site, participants gave informed consent. Participants were then asked about their awareness and experience of psychological counseling, SNS counseling, and psychosomatic medicine/psychiatry in this order, followed by questions on their image of these services. The image questions included free response (see the “Materials” section above) and scale-based ratings, which are not included in the current analysis (see Hatanaka, 2022, for scale-based ratings). Participants answered other questions, which will be reported elsewhere, and demographic questions. The entire survey lasted about 20 minutes. The entire protocol of the survey was approved by a local ethics committee of Kyoto University.

### Analysis

*Vectorization of the text.* All the texts about the image of each mental health service were vectorized by a pretrained Japanese model of BERT (Kurihara et al., 2022; <https://huggingface.co/nlp-waseda/roberta-large-japanese>). The last hidden layer of the “CLS” token was used to represent the entire text. The representation of the CLS token is trained to predict/represent all the words in a given text and is supposed to represent the entire text. The vector for each text had the size of 1024.

*Principal component analysis.* The text vectors were submitted to principal component analysis to compress the information contained in them and to simplify interpretation. The first 20 principal components (PCs) were used for further analysis because they cumulatively explained 50.1% of the variance.

*Correlation with age.* For each mental health service, each of the 20 PCs was (linearly) correlated

with age. We will discuss PCs that were significantly correlated with age. False discovery rate was controlled to .05 within each mental health service. When reporting the results, the signs of the PCs have been transformed so that each PC negatively correlates with age (i.e., descriptions with positive PC values are more prevalent in younger participants).

## RESULTS

### *SNS Counseling*

Of the 20 PCs, three PCs significantly correlated with age ( $r$ s ranged from  $-.14$  to  $-.17$ ; Table 2), suggesting overall generational differences in the image of SNS counseling. To examine the content of the PCs, Table 2 displays those PCs that significantly correlated with age. It displays the texts (both original Japanese and English translations) with the ten most positive and ten most negative PC values for each PC. Since the PCs have been transformed to have negative correlations with age, texts further up (i.e., those with positive PC values) are more typical of younger participants and texts lower down (i.e., those with negative PC values) are more typical of older participants. The middle part of the table displays interpretive comments about both the positive and negative sides of the PC. The correlation coefficient  $r$  is also displayed in the middle of the table.

In all PCs, the image of SNS counseling among younger participants clustered around “lightness” and “ease of use.” “Lightness” had not only positive but also negative connotations, such that the topic and content may be light and not serious (PCs 10 and 14; Table 2). Among older participants, each PC centered around different aspects to “lightness.” Older participants tended not to know about SNS counseling and to expect it would be difficult or doubt its effectiveness (PC 10; Table 2). Older participants were also anxious about not seeing the counselor’s face or the counselor’s expert skills (PC 14; Table 2), and about privacy, security and confidentiality issues (PC 15; Table 2).

### *Psychological Counseling*

Of the 20 PCs, six PCs significantly correlated with age ( $r$ s ranged from  $-.11$  to  $-.16$ ; Table 3), suggesting overall generational differences in the image of psychological counseling. To examine the content of the PCs, Table 3 displays those PCs that significantly correlated with age.

In general, younger participants tended to focus on the client (e.g., who goes to counseling and when they go to counseling) and the counseling itself, while older participants tended to focus on the counselor or the outcome and effectiveness of the counseling (PCs 9, 10, and 16; Table 3), although some PCs were difficult to interpret (PCs 11 and 15). These generational differences probably stem from differences in direct, close-to-direct, or concrete experiences of psychological counseling. Counseling services have gradually been implemented in contexts such as schools and industry. Younger participants have probably had more direct or concrete experiences in such



Table 2. Image of SNS Counseling

Japanese text (original)	English text (translated)	PC 10
心療内科に通うより気軽に利用できそう	Will be easier to use than going to a psychosomatic medicine clinic	3.01
出掛ける必要がないので楽。気軽に相談できそう	It is easy because I don't have to go out. Will be able to consult casually	2.74
気軽に、相談の場所まで行くのが億劫に感じている時に利用するのに良さそう	Seems like it would be good to use when you feel too lazy to go to a place for consultation.	2.67
多少気軽に利用できそう	Seems somewhat easy to use.	2.51
料金も安く気軽に相談できそう。	The fee is cheap and I feel I can use the counseling service easily.	2.46
実際に会ってカウンセリングするよりも気軽に、沢山の人が利用できる。若い方が利用することが多いイメージ。	It is easier than face-to-face counseling, so many people can use it. I have an image that young people tend to use this service.	2.37
SNSなら気軽に利用できそう	SNS seems easy to use.	2.37
対面よりもハードルが低いので利用しやすい。弱っている時は、どこかに行くこと自体がしんどいので。	Seems easier to use than face-to-face counseling because the hurdle is lower. When I am weak, it is hard to go somewhere.	2.36
気軽に利用できるイメージ	Image of easy to use	2.35
対面カウンセリングより気軽に利用できる。対面だと緊張して上手く喋れない時に利用するのでも良さそう。	It is easier to use than face-to-face counseling. It would be good to use when you are too nervous to speak in person.	2.33
Lighness		Younger
Don't know. Expected difficulty and doubt on effectiveness	$r = -.14$	Older
面と向かって相談することができない、恥ずかしい、という人にとっではいい方法だと思います。	I think it is a good method for people who are unable or embarrassed to discuss issues face to face.	-1.82
文字中心の対話なので、どこまで効果があるのか疑問です。対面や電話ほどの効果があるかどうかはわかりませんが、良い方向に向かうきっかけにはなるかとも思います。	Since it is a text-based dialogue, I am not sure how effective it will be. I don't know if it is as effective as face-to-face or telephone, but I think it might be a good start in the right direction.	-1.84
直接面と向かって話すよりも手堅だと思えますが、相談相手がきちんと信頼できる組織や人物なのかをよく見定める必要があると感じます。	I think it is easier than talking face to face, but I feel that it is necessary to carefully assess whether the person or organization with whom one is counseling is properly trustworthy.	-1.84
名前を聞いたことがある程度で、具体的にどのようかカウンセリングをするのか知らない。チャットでカウンセリングをするということは文字でのやりとりになると思うが、それで十分な治療効果が見込まれるのか疑問である。	I have only heard of the name and don't know exactly how counseling is done. I think that counseling through chatting means exchanging letters, but I am not sure if it is expected to have sufficient therapeutic effects.	-1.91
その存在を全く知りませんでした。	I had no idea of its existence.	-1.95
話を聞いてくれたアドバイスには、よい方法であると思います。ただ、相手の声や話し方が分からないことに不安もあります。	I think it is a good method for people who are not good at talking. However, I am also worried about not knowing the other person's voice and speaking style.	-2.02
話を聞いてくれてアドバイスしてくれてくれるという印象を持っています。	I have the impression that they listen to you and give you advice.	-2.14
このアンケートで初めて知りました	I learned about it for the first time through this survey.	-2.21
チャット形式で相手の本当の気持ちをしることは難しいと思う	I think it is difficult to know the true feelings of others in a chat format	-2.21
経験談については、聞いたことがありません。	I have not heard about the experience on it.	-2.93

(Table 2 continued)

Japanese text (original)	English text (translated)	PC 14
気が楽になれそう。	I think it will be easy to use.	2.97
より手軽に利用でき、利用にあたってのハードルが低いと思うので良いサービスだと感じます。	I think it is a good service because it is easier to use and the hurdles to use are lower.	2.53
何往復ごとにもいくらなど、手段は手軽でも料金はやっぱり高く取られそうなイメージです。	I have an image that the service is easy to use, but the fee is expensive.	2.50
対面や電話より気軽にできそうだが、心が弱っているひとに文字のみで良い影響を与えるのは難しく感じる。	It seems easier than face-to-face or telephone counseling, but I feel it would be difficult to have a positive effect on someone with a weak mind through text alone.	2.48
気軽に受けられそう。	It seems to be easy to receive.	2.42
一般的なカウンセリングより親しみやすく、気軽に利用できそう。	It seems more approachable and easier to use than general counseling.	2.24
Line等で解決する程度なら、利用しなくても大丈夫だろう。つまり利用したか感じません。	If I can solve the problem with Line, etc., I will be fine even if I don't use the service. In other words, I don't feel that I have used them.	2.22
あまり期待はしておりません。どうしようもなく追い詰められたら利用しようと考えているかもしれませんが、今のところ縁はなさそうに思っています。	I do not have high expectations. I may think about using it if I am cornered out of my way, but I don't think I will have a chance at the moment.	2.16
病院で行くよりも気軽に感じ	More casual than going to a hospital	2.10
対面式より気軽にカウンセリングを受けることができ、使用しやすいい印象。	I feel that it is easier to receive counseling than face-to-face counseling.	2.08
<b>Lighness (both pros and cons)</b>		Younger
<b>Anxiety for not seeing the face and expertise of the counselor</b>	$r = -.14$	Older
SNSでは実際に顔が見えないので若干の不安があります	Some anxiety because I can't actually see the other person's face on SNS	-2.47
相談しやすそうなのかわからない	I don't know if it is easy to consult with them.	-2.50
気軽に相談できそうだが、プライバシーなどの不安がある	Seems easy to consult, but I am concerned about privacy, etc.	-2.62
直接会う必要がないのでハードルが低い	There is no need to meet face-to-face, so the hurdle is low	-2.89
対面で相談できないので、相手方の顔が見えなくて不安	I am worried because I cannot see the other party's face since I cannot consult face-to-face	-3.00
個人情報観点から非常に不安です	I am very anxious from the viewpoint of personal information	-3.22
相手が見えないので専門家かどうかわからない	I don't know if the person I am talking to is an expert or not because I can't see him or her	-3.42
オンラインなので、対面より不安がある	I am more worried than in person because it is online.	-3.53
本当に専門家なのか不安である	I am not sure if the person I am talking to is really an expert.	-3.62
相手が見えないので、不安である	I am worried because I cannot see the other party	-3.73

(Table 2 continued)

Japanese text (original)	English text (translated)	PC 1.5
気軽にカウセンシングできるとおもいます	I think it is easy to receive counseling	4.25
対面式より気軽にカウセンシングを受けることができ、使用しやすい印象。	I feel that I can receive counseling more easily than face-to-face counseling, and it is easier to use.	3.90
対面で話すことが苦手なため、チャット形式の方が相談しやすいと感じる。	I am not good at talking face-to-face, so I find it easier to talk in a chat format.	2.88
言いつづらいい話はしづらそう	I don't feel comfortable talking about things I don't feel comfortable saying.	2.69
手軽そう	Seems easy to use	2.69
面と向かって話せない人や対人恐怖症の人には良いと思います。ただ人と人が顔を直接 付け合わせただほうが良いと思います。	I think it is good for people who can't talk face to face or people who are afraid of other people. However, I think it would be better if people could talk face to face.	2.62
チャットで心理が伝わるとは思えない	I don't think you can convey psychology through chatting.	2.55
カウセンシングの取っ掛かりとしてはいいと感じています	I feel it's a good way to start counseling.	2.51
心理的障壁がすくないと思う	I think there are few psychological barriers.	2.41
心理カウセンシングなどへ行くことに躊躇してしまいうような人達が気軽に受けられるタイ プの心理カウセンシングという印象があります。	I have the impression that it is a type of psychological counseling that people who would hesitate to go to psychological counseling can easily receive.	2.37
<b>Lightness (both pros and cons)</b>		
<b>Anxiety about privacy, information leakage, and security</b>		Younger Older
あまり期待はしておりません。どうしようもなく追い詰められたら利用しようと考えるか もしれませんが、今のところ縁はなさそうに思っています。	I do not have high expectations. I might consider using the service if I am trapped in a situation, but for now I don't think I will have a chance to use it.	-2.30
情報漏洩が気になる	I am concerned about information leakage.	-2.31
本当に信用できるか分からない。	I don't know if I can really trust them.	-2.33
プライバシーや個人情報の漏えいが気にかかる。	I am concerned about privacy and personal information leaks.	-2.38
プライバシーの保護が気になる。SNSでできるなら、今よりもっと利用しやすくなる	I am concerned about privacy protection. If I could do it on a social networking service, it would be more accessible than it is now.	-2.40
今の時代のもので、気軽に相談できそうないイメージです。ただ、個人情報がか心配です。	It is something of the current era, and I imagine I can easily consult with them. However, I am concerned about personal information.	-2.46
セキュリティも問題も気になるし、自分のプライバシーが流出しないとも限らないので、 利用したいとは思わないです。	I am concerned about security and problems, and I don't necessarily want to use it because I don't know if my privacy will be leaked.	-2.50
SNSでの相談ではセキュリティが心配です。相談内容が漏洩するかもしれないので信用 できません。	I am concerned about security when consulting on social networking sites. I don't trust the consultation because its contents might be leaked.	-2.84
個人情報保護されているか不安があります。	I am concerned about the protection of my personal information.	-2.91
あまり信用できない。情報の管理がきちんとできているのか心配。	I don't trust them very much. I am worried about whether the information is managed properly.	-3.65

Note. PC = principal component.

contexts (PC 18; Table 3). Because of these experiences, younger participants may have been able to imagine themselves as potential clients and/or what the counseling or counselors are like, while older participants tended to regard psychological counseling as a part of medical care, focusing more on the effectiveness and expertise of the counselor rather than regarding themselves as potential clients (e.g., PC 9; Table 3).

### *Psychosomatic Medicine/Psychiatry*

Of the 20 PCs, four PCs significantly correlated with age ( $r$ s ranged from  $-.12$  to  $-.16$ ; Table 4), suggesting overall generational differences in the image of psychosomatic medicine/psychiatry. To examine the content of the PCs, Table 4 displays those PCs that significantly correlated with age.

In all, the image of psychosomatic medicine/psychiatry among younger participants was in contrast to that of SNS counseling and clustered around “heaviness” (Table 4). Younger participants had an image that was heavy, serious, dark and (psychologically) distant. They also tended to perceive a high threshold for using psychosomatic medicine/psychiatry. Similar to their image of psychological counseling, younger participants focused more on the client (who uses the service and when they might use the service). Most of these images had negative connotations, but “heaviness” was also associated with trust (PC 11; Table 4). Older participants tended to consider psychosomatic medicine/psychiatry as medical treatment (PCs 9, 10, and 11; Table 4). They focused more on the counselor as an expert or doctor and/or treatment (e.g., drugs). These images of medical treatment were associated with relatively positive evaluations (PCs 9 and 10; Table 4) but sometimes had more negative connotations, such as references to the risk of being drugged or mind-controlled (PC 11; Table 4). This negative image might reflect occasional media coverage of this topic with sensational headlines such as “The extraordinary reality of *drugging* people diagnosed with mental illness” from Igusa (2022). Older participants also tended to have concern about other’s perceptions and prejudice against those using these services (PC 19; Table 4).

### *Follow-Up Analyses of Generational Differences*

Although our primary purpose was to provide descriptive data about generational differences in the image of SNS counseling, the exploration of potential mediating variables between age and these images may also be informative. Potential confounding factors should, at least, be specified and controlled. We therefore performed follow-up analyses that regress those PCs with generational differences onto the following demographic variables in addition to age: use of social media (LINE, Instagram, Facebook, and Twitter), gender, employment status, marital status, and residential mobility. The random effect of the prefecture of residence was also included.

For the image of SNS counseling, PC 10 no longer showed generational differences ( $t = 1.03, p = .30$ ). Instead, being male was negatively related to PC 10 ( $t = 3.32, p < .001$ ). This reflects a slight sampling bias whereby males were, on average, slightly older than females in the current sample ( $M_{\text{male}} [SD] = 42.76 [12.15]$  and  $M_{\text{female}} [SD] = 40.53 [11.66]$ ;  $t(605.09) = -2.31, p = .021$ ). The image of not knowing and/or doubting the

Table 3. Image of Psychological Counseling

Japanese text (original)	English text (translated)	PC 9
自分では気づいていない深層心理について気づかせてくれる印象です。	I have the impression that he makes you aware about the deeper psychology that you are not aware of.	3.14
人間の行動などから人の心理を読み取るのに長けた人。精神状態が良好な人には無縁なものというイメージ。	A person who is skilled at reading people's psychology from their behavior and other aspects of their lives. The image of a person who is in a good mental state is that of a person who is not involved.	2.45
自分の深層心理を他人に干渉されるという感じがして、あまり良いイメージは持っていない。	I do not have a good image of him because I feel that he interferes with my deep psychology by others.	2.29
怖い。心の弱い人から金を巻き上げているイメージ	It is scary. Image of taking money from weak-minded people.	2.26
心が病んだときに受けるイメージです。精神的な部分の治療という印象です。大人に多いイメージです。	This is the image I get when I have a mental illness. I have an impression that it is a treatment for the mental part. It is an image that many adults have.	2.24
宗教と同じで見えないものを妙に具体的に表現して、ときに科学を装っていたりするけれども、実際には科学ではないイメージがあります。	Like religion, it is an image of something that is not actually science, although it sometimes pretends to be science by expressing in a strangely concrete way what it is impossible to see.	2.15
極一部の悪事を働く人のせいで胡散臭いというイメージがある。	There is an image of being stinky because of a very small number of people who do evil things.	2.10
周りでも利用している人がいないので、言葉とおおり、それ以上でもそれ以下でもない印象。	I don't know anyone around me who uses it, so I have the impression that it is just as the word says, nothing more and nothing less.	2.09
トラウマ的なものを心に抱えて生きづらさを感じている人が行くイメージ	The image of a place where people who have had traumatic experiences and are feeling hard to live go.	2.05
鬱状態になってしまった人がいくイメージです。周りに行っている人なとおおらず身近な印象はありません。	It is the image of a person who has become depressed. There is no one around me who has been there, so I don't have the impression that it is familiar to me.	2.03
Focus on client (e.g., who goes to counseling) Focus on mind and psychology.		Younger Older
Medical understanding of counseling. Regarding counselor as a "doctor" and/or expert. Focus on counselor side (e.g., expertise)	$r = -.11$	
精神的に正常か否かを、医学的見地から相談すること	Counseling from a medical perspective to determine if the person is mentally normal or not.	-1.56
私が以前、働いていた職場には心理カウンセリングをして下さるカウンセラーチームがありましたので、定期的に利用して、仕事上やプライベートな事を色々と相談させてもらったお陰で精神的に楽になりましたし、頑張る事が出来ました。	The workplace where I used to work had a counselor's room that provided psychological counseling, and I used it regularly to discuss various work-related and personal matters, which helped me mentally feel at ease and was able to do my best.	-1.61
じっくり話を聞いてもらえらる	I can be listened to carefully.	-1.68
希望者が気軽に相談できる	People who wish to consult with us can do so easily.	-1.69
専門家の相談判断だから、それなりに尊重する	It's a professional consultation decision, so I respect it accordingly	-1.72
先生に相談できる。薬などがもらえる。	I can consult with the doctor. I can get medicine, etc.	-2.08
Dr.が話を聞いてくれる。医療(学術)の観点から糸口を見つけてアドバイスを受け、一緒に問題解決へ向かう。	The Dr. listens to you. The doctor will find a clue from a medical (academic) point of view, give advice, and work with you to solve the problem.	-2.14
それなりに高いお金がかかりそう。すぐに薬を処方される。	It will cost a certain amount of money. You will be prescribed medicine right away.	-2.19
精神科医が対応する	A psychiatrist will deal with the problem.	-2.43
受診したのが解決しない	I have seen a doctor, but the problem is not solved.	-2.89

(Table 3 continued)

Japanese text (original)	English text (translated)	PC 10
精神的に参っている人が利用するもの。 精神的に不安定な時に利用するもので、少し敷居が高いイメージがあります。 敷居が高くなかなか気軽にには利用できない印象があります。 ストレスが溜まりそう	It is used by people who are mentally disturbed. I have an image that it is used when one is mentally unstable and the threshold is a little high. I have the impression that it is difficult to use the service casually because of the high barriers. It seems stressful.	2.59 2.58 2.48 2.43
LINE やメールは気軽に相談できそうだが、クリニックなどに行くのはハードルが高い印象 です。電話はなんか全然繋がらないイメージがあります。 カウンセリング自体はブラスイメージですが、相談者の心の拠り所、お助け場所。女性的 なイメージがあります。 気軽にできるイメージ。学校などに配置されている感じ 精神状態が不安定になった時に頼れる存在であり、心のケアをしてくれる場所。身近な人 に頼れないからこそ、ありがたい。 メンタルを病んだり自殺を考えた時に使用する最後の手段であり、とても頼りになる存在。 鬱の人が行くイメージ	LINE and e-mail seem to be easy to consult, but going to a clinic, etc. seems to be a hurdle. I have an image that phone calls are kind of hard to connect at all. Counseling itself is a positive image, but it is a place where the counselor can be a source of comfort and help. It has a feminine image. The image of a place that is easy to go to. Feels like being placed in a school, etc. A place where they can rely on when they feel mentally unstable and where they can take care of their mental health. I am thankful for this because I cannot rely on anyone close to me. They are a last resort and very reliable person to use when they are mentally ill or suicidal. Image of depressed people going there.	2.32 2.11 2.07 2.05 2.02 2.01
Focus on client (e.g., who goes to counseling) Focus on mind and psychology. Focus on outcome and effectiveness	$r = -.16$	Younger Older
他人だが、専門的に話をきいて薄いてくれる人で、重要な存在だと思 う 一度軽いうつ病になり、カウンセリングを受けたことがあります。ごく普通のことを聞か れ、ほぼその間に答えるだけでした。その後の精神科医の情報になるのかもしれませんが が、そのカウンセリングで体調がよくなるとかいうことはないと思います。 真剣に考えたことがないので、今問われてもすぐに答えが見つかりません。 心の病を治すことだと思 います。 専門家いろいろな悩みを聞いていただいてそれに対してのアドバイスを開けるとい う有 効なものだと思います。 カウンセラーが、相談者の話すことを、共感を持ちながら聞いてくれるということ を聞いています。傾聴ということ です。 以前と比べる、カウンセリングを受けることに対してはいふん抵抗のない時代になっ てきたのは、世の中のよい傾向だと思います。 効果が上がっている以上立派な医療行為なのだが、実際に受けたことがないのでいま い ち信 じられない。 効果に個人差はあると思いますが、あつたほうがいいと思います。 あまり効果がなかった	He's a stranger, but he's someone who listens and guides me professionally, and I think he's important. Once I had a mild depression and received counseling. I was asked very ordinary questions, and I mostly just answered those questions. I don't think that counseling will make me feel better or anything, although it may be the psychiatrist's information afterwards. I have never thought about it seriously, so I can't find an answer right away if asked now. I think it is about curing mental illness. I think it is an effective way to have an expert listen to various problems and hear advice on them. I have heard that counselors listen to what counselors have to say with empathy. It is called listening. I think it is a good trend in the world that people are much less reluctant to receive counseling than they used to be. As long as the effect is improving, it is a splendid medical practice, but I don't quite believe it because I have never actually received it. I think there are individual differences in effectiveness, but I think it would be better if there were. It wasn't very effective.	-2.11 -2.12 -2.15 -2.22 -2.27 -2.30 -2.39 -2.42 -2.42 -2.48

(Table 3 continued)

Japanese text (original)	English text (translated)	PC 11
少し敷居が高いと思っていたが、実際に利用してみると特殊な空間というわけではなく、とても安心できる場所だと感じた。	I thought it was a bit intimidating, but when I actually used it, I found it to be a very safe place, not a special space.	2.88
時間がかかる。先生との相性が合わない場合がある。よくわからないので行きにくい。その場で上手く話せなかったらどうしようという不安がある。	It takes time. Sometimes the teacher and I don't get along well. It is difficult to go there because I don't know what to expect. I feel uneasy if I can't speak well on the spot.	2.51
話を聞いてくれるという印象があるが、具体的なアドバイスはもたえないというイメージピンからキリまでありかなという印象良い先生に会えればいいが、相性もあるのか。	I have the impression that they listen to me, but I don't get concrete advice.	2.32
色々な悩みを聞いてくれて相談のついでに聞いてくれるが、一般にはあまり知られていないような気がする。	They listen to my various problems and give me advice, but I don't think they are well known to the general public.	2.21
悩み事や話を丁寧に聞いてくれるが、はっきりとしたアドバイスはあまりしない	He listens carefully to my problems and stories, but doesn't give me much clear advice.	1.86
普段人には言えない悩みなどを抱えて生きているので、話を聞いてもらえるのはとても良い事だと思う。	I think it is very good that they listen to me because I live with worries that I usually can't tell people about.	1.81
アメリカでは気軽に利用できる人が多く、日本ではまだまだ敷居が高い印象があり、気軽に利用できなさそうだなーヒズだと思っ	In the U.S., there are many people who use this service casually, but in Japan, I have the impression that it is still too expensive, and I don't think it is a service that can be used casually.	1.78
極一部の悪事を働く人のせいで胡散臭いというイメージがある。	There is an image of a stench because of a very small number of people who do bad things.	1.76
知人に心の病を抱えている人がいて通院経路を聞いてみると、なるほど行く価値はあるなと思っ	When I heard about an acquaintance of mine who has a mental illness and his experience of visiting a hospital, I thought, well, it's worth going.	1.68
<i>r</i> = -.13		
This PC is difficult to interpret. It probably captures cognitive understanding of definition of counseling.		Younger
This PC is difficult to interpret.		Older
精神的に負担がかかる状況を避けられず重大な問題が発生しそうな時に、頼りにするものというイメージです。メンタルヘルスに大きな異常が起きない限りお世話になることはないと思っています。	I get the impression that this is something you turn to when you can't avoid a mentally taxing situation and a serious problem is about to occur. I don't expect to be taken care of unless there is a major mental health problem.	-2.14
仕事で上手くいかなかったり、気持ちが悪くなり落ち込んで死にたくないことがありました。そんな時心理相談をうけ、きちんと診察と治療をうけて、いまは改善しつつあります。	There was a time when things went wrong at work and I felt depressed and wanted to die. At that time, I received a psychological consultation, received proper medical examination and treatment, and am now improving.	-2.23
私は精神障害者保健福祉手帳を級で定期的に精神科に通院しています。ただし、医師とさえども疎通がとれません。いつも父母同伴です。	I have a Level 2 Certificate of Health and Welfare for the Mentally Disabled and visit a psychiatrist on a regular basis. However, even with the doctor, I cannot communicate with him. I am always accompanied by my parents.	-2.25
心の病を治す方向に導いてくれそう	They seem to be leading me in the direction of curing my mental illness.	-2.29
家族が心療内科に通っておりカウンセリングにかかったことがあります。話せるだけで楽になるようです。	My family member is a psychosomatic patient and I have seen a counselor. Just being able to talk about it seems to help.	-2.34
私は精神科に勤務していたことがあります。心理相談や心理カウンセリングは治療のひとつとして必要なものだと思います。投薬のみの治療より、患者に寄り添っている印象を持ちます。	I have worked in a psychiatry department. I believe that psychological consultation and psychological counseling is a necessary part of treatment. I have the impression that they are more patient-oriented than medication-only treatment.	-2.36
落ち込んだり、うつ状態のときに的確なアドバイスをくれそう	They seem to give me accurate advice when I feel depressed or down.	-2.51
正直自分の気持ちは自分ですら操作できません。心療内科に行った事がありますが、何の役にも立ちませんでした。	To be honest, I can only manipulate my own feelings. I have been to a psychosomatic medicine clinic, but it didn't help me.	-2.53
仕事のストレスによる精神的な不調で、実際にカウンセリングを受けたことがあります。物事の受け取り方や考え方を教えてくれたり有用ではありますが、根本的な解決をするものではないので、あくまでサポートとと思っています。	I have actually received counseling for a mental disorder caused by work stress. It is useful to teach me how to take things and think about them, but it is not a fundamental solution, so I consider it only a support.	-2.53
ストレスが溜まりそう	It's going to stress me out.	-2.67

(Table 3 continued)

Japanese text (original)	English text (translated)	PC 1.5
<p>鬱の人が行くイメージ 実際に心療内科に通っていたことがあり、話を聞いてくれる落ち着いた空間であると感じています。</p>	<p>I imagine depressed people going there. I have actually been to a psychosomatic clinic and find it to be a calm space that listens to me.</p>	<p>2.92 2.78</p>
<p>鬱病の人が通うところ 私は中学生のころ、なかなか学校に行けていかなかったのですが、その時に中学校とは別のフリースクールという施設に通っていたのですが、そこで心理カウンセリングをうけ、とても私に寄り添ってくれたカウンセラー先生は、すごく優しい印象があります。</p>	<p>Where depressed people go. When I was in junior high school, I was not able to go to school very well, but I went to a free school, which was different from junior high school, and I received psychological counseling there.</p>	<p>2.71 2.36</p>
<p>自分の気持ちや現状を客観的に知ることのできる場 以前と比べると、カウンセリングを受けることに対してだいぶ抵抗のない時代になってきたのは、世の中のよい傾向だと思います。</p>	<p>A place where I can objectively know my feelings and current situation Compared to the past, I think it is a good trend that people are now much less reluctant to seek counseling.</p>	<p>2.31 2.21</p>
<p>特別なものの印象 イメージがわからないまま臨んだ結果、かみあわなない印象だった。カウンセラーとの信頼関係がないまま、治療につながるような深い話はできないと感じた。本当に効果のあるカウンセラーにはまだ出会っていないと感じる。</p>	<p>Impression that it is something special I went to the counseling sessions without having a clear image of what I wanted, and as a result, I had the impression that I would not be able to get along. I realized that without a relationship of trust with the counselor, it is impossible to have a deep discussion that will lead to treatment. I feel that I have not yet encountered truly effective counseling.</p>	<p>2.17 2.00</p>
<p>希望者が気軽に相談できる 穏やかな印象を受ける人が気持ちが良いと感じる空間で話を聞いてくれる。</p>	<p>Those who wish to do so can feel free to talk to me. They listen to you in a space where you feel comfortable with someone who gives you a calm impression.</p>	<p>1.97 1.97</p>
<p>Difficult to interpret. Difficult to interpret.</p>	<p>It probably focus on the counseling as a place. <math>r = -.11</math></p>	<p>Younger Older -2.06</p>
<p>効果が上がっている以上立派な医療行為なのだが、実際に受けたことがないのでもないし信じられない。</p>	<p>It's a fine medical practice as long as it's effective, but I can't quite believe it because I've never actually had it.</p>	<p>-2.07</p>
<p>ビジネスでやっていっているだけなので親身になってくれない。根本的な解決にならない。</p>	<p>It's just a business and they are not friendly to me. It is not a fundamental solution.</p>	<p>-2.07</p>
<p>ストレスや悩みを緩和に役に立つという印象。</p>	<p>I have the impression that it is helpful in alleviating stress and worries.</p>	<p>-2.16</p>
<p>極一部の悪事を働く人のせいで胡散臭いというイメージがある。</p>	<p>There is an image that they are stinky because of a very small number of people who do bad things.</p>	<p>-2.17</p>
<p>色々な悩みを聞いてくれて相談のってくれるが、一般にはあまり知られていないような気がする。</p>	<p>They listen to my various problems and give me advice, but I don't think they are well known to the general public.</p>	<p>-2.18</p>
<p>専門家の相談判断だから、それなりに尊重する</p>	<p>It's a professional consultation decision, and I respect it accordingly.</p>	<p>-2.45</p>
<p>メンタルを頼んだり自殺を考えた時に使用する最後の手段であり、とても頼りになる存在。</p>	<p>They are a last resort to use when you are mentally ill or thinking of suicide, and they are very reliable.</p>	<p>-2.65</p>
<p>そもそもどうして、そんなモノに頼らなければならぬのか理解に苦しみます。</p>	<p>I don't understand why I have to rely on such a thing in the first place.</p>	<p>-2.76</p>
<p>自分で考えてもどうしても解決しないような問題を抱えているときに相談するところ。</p>	<p>It is a place to consult when you have a problem that you can't solve even if you think about it yourself.</p>	<p>-2.95</p>
<p>あまり利用することが無く、特殊な状況で本当に困った時に利用するもの。</p>	<p>It is something you don't use very often and use when you are really in trouble in a special situation.</p>	<p>-2.95</p>



(Table 3 continued)

Japanese text (original)	English text (translated)	PC 16
自分の思いや考えを第三者へ口に出しながら語ることで自分の中で思いや考えの整理がで きる場	A place where I can organize my thoughts and feelings by talking about them out loud to a third party.	2.37
医師が患者の話をきいてくれ、話すことで治療になる印象があります。	I have the impression that the doctor listens to me and that talking is therapeutic.	2.30
先生に相談できる。薬などがもらえる。	I can talk to the doctor. You can get medicine, etc.	1.98
人に話すことで心に抱えるしんどさや辛い感情を和らげること。	Talking to others can help ease the pain and difficult feelings I have inside.	1.97
話でラクになるかもしれないが、相談することを家族に話せない。心配させてしまう。	It might be easier to talk to them, but I can't tell my family what I'm discussing with them. It makes them worry.	1.84
こちらの意見をきちんと聞いてくださる印象。雰囲気も穏やかな方が多い。	I got the impression that they listen to my opinion. The atmosphere is calm.	1.75
強く不安に思っていることや不安から来る症状の話を聞いてもらう。	They listen to me about my strong anxiety and symptoms caused by anxiety.	1.75
精神的な病氣や不安を抱えた人が受診する病院。SNSなどで治療体験を書いている人が受 診していた。	Hospitals where people with mental illnesses or anxieties are seen, and people who write about their treatment experiences on social networking sites are seen there.	1.74
人に話すことでストレス解消する。	Talking to others relieves stress.	1.67
人に相談しにくい悩み事などを聞いてくれる。否定せず、共感してくれる。	They listen to your problems and other issues that are difficult to discuss with others. They empathize with you without denial.	1.66
Focus on counseling as a place for client/participants to talk and to be listened to. Focus on counselor. Doubt on competence and/or compatibility.	$r = -.14$	Younger Older
親身になってカウンセリングを受けられるかどうかちよつと不信感を抱いています。	I am a little distrustful of whether I can receive counseling in a friendly manner.	-2.82
カウンセラーとの相性が良ければ心が楽になる。一方で、相性の悪いカウンセラーの場合、 カウンセリングに意味を見出せない。対人なので、当たり外れがあると思う。	If you have a good match with a counselor, you will feel at ease. On the other hand, if the counselor is not a good match, you will not find any meaning in counseling. Since it is interpersonal, I think it is hit or miss.	-2.99
カウンセリング自体はとも良いもので、もっと一般的になれば良いと思います。本当 に質の良い、プロフェッショナルなカウンセラーを探すのは難しいと感じています。	Counseling itself is a very good thing, and I wish it were more common, but I feel that it is difficult to find a truly good quality, professional counselor.	-3.01
教育心理学などを大専で勉強した人達が、職業として行っているという印象だけで、実 際に受けているという人には出会ったことがない。	I only have the impression that people who have studied educational psychology at university are providing counseling as a profession, and I have never met anyone who has actually received it.	-3.03
資格があいまいで、カウンセリングを行う人の知識や経験の幅が広すぎる。ぶつちやけて いうと当たり外れが激しい。	The qualifications are vague and the range of knowledge and experience of the counselors is too broad. To put it bluntly, it is too random.	-3.11
カウンセラーを信用できないと全く意味がない	If you don't trust the counselor, it doesn't make sense at all.	-3.14
カウンセラーの実力によって、とても役立つ場合もあるが、そうでない事も多いと思う。	Depending on the competence of the counselor, it can be very helpful, but I think it often is not.	-3.21
カウンセラーによっては実力の差がある。	Some counselors have varying degrees of competence.	-3.30
知人か何人かカウンセリングを受けたことがあります。カウンセラーとの相性が悪 かったのか、成果は乏しかったようです。個人的な印象は、成果があるかどうかはカウ ンセラーの力量と、総合的な相性によるかと考えています。	I have several acquaintances who have received counseling. The results were poor, perhaps because they were not compatible with the counselors. My personal impression is that whether there are positive results or not depends on the competence of the counselor and overall compatibility.	-3.46
催眠療法などがある。カウンセラーとの相性が大事	Hypnotherapy, for example. It is important to get along well with the counselor.	-3.48

(Table 3 continued)

Japanese text (original)	English text (translated)	PC 18
初めに入った会社かなり黒く（ブラック）同じタイミングで入社した同僚がカウンセセリ ングに通っていたのを聞いた。	The first company I joined was quite black (black) and I heard that a colleague of mine who joined at the same time was going through counseling.	3.92
カウンセラーなどの資格をもった専門家に様々な悩みを相談することが出来る。有料で料 金は高い。	You can talk to counselors and other qualified professionals about various problems. There is a fee for this service, and the fees are high.	3.01
以前県に臨時職員で働いていたときにセクハラを上司から受けていた女性が職場に設置し ている心理相談を受けていて、その後その上司が職場移動したことがありました。	When I used to work for the prefectural government as a temporary employee, a woman who was being sexually harassed by her boss received psychological counseling set up at her workplace, and her boss was subsequently transferred to her workplace.	2.84
私は中学生のころ、なかなか学校に行けていなかったのですが、その時に中学校とは別の フリースクールという施設に通っていたのですが、そこで心理カウンセリングを受け、と ても私に寄り添ってくれたカウンセラー先生は、すごく優しい印象があります。	When I was in junior high school, I was not able to go to school very well. At that time, I went to a free school, which was different from junior high school, and I received psychological counseling there, and I have a very gentle impression of the counseling teacher who was very close to me.	2.75
教育心理学などを大学で勉強した人達が、職業として行なっているという印象だけで、実 際に受けているという人には出会ったことがない。	I have never met anyone who actually received such counseling, only the impression that it was done as a profession by people who had studied educational psychology at university.	2.70
どちらかというポジティブな印象があります。実際、心理カウンセラーの方が執筆され た本を何冊か読んだこともあり、勉強になりました。	I have a rather positive impression. In fact, I have read several books written by psychologists, and I have learned a lot.	2.58
大学で教職課程を履修していたので、学校心理学や教育心理学の中で、生徒理解や 教育相談については学んだ記憶があるが、成人対象の心理カウンセリングについては全く 知識や経験はない。アメリカ合衆国では、カウンセラーという職業・産業が確立されてい ると何かで読んだ記憶がある。	I took a teaching course in college, and I remember learning about student understanding and educational counseling in my school psychology and educational psychology classes, but I have no knowledge or experience with psychological counseling for adults. I remember reading something about an established profession/industry of counselors in the United States.	2.45
学校にいる心理カウンセラーの人たまたま休み時間に世間話をする存在	Psychological counselors at school, the ones who occasionally make small talk during recess.	2.44
悩みの相談を聞くプロで過去に多くの人を救っている印象があり、相談後は前向きになれ る	I have the impression that they are professionals who listen to people's problems and have helped many people in the past, and I feel positive after the consultation.	2.40
心理カウンセラーに悩みなどを聞いてもらいたい、アドバイスなどをしてもらってことがあり ます。専門家でなくてもできるような当たり障りのない綺麗なアドバイザーしかしてもら えず、あまり意味のあるものとは思えませんでした。	I have had a psychological counselor listen to my problems and give me advice. They only gave me bland, clean advice that could be given by a non-professional, and I did not think it was very meaningful.	2.35
Counselor as an expert in context (e.g., school counselor and industrial counselor).	$r = -.11$	Younger Older
Focus on counseling itself.		
心の病を治すことだと思えます。	I think it's about curing mental illness.	-2.08
穏やかな印象を受ける人が気持ちが良いと感じる空間で話を聞いてくれる。	They listen to you in a space where you feel comfortable with someone who gives you a calm impression.	-2.08
精神的に負担がかかる状態を避けられず重大な問題が発生しそうな時に、頼りにするものと いうイメージです。メンタルヘルスに大きな異常が起きない限りお世話になることはない と思っています。	I imagine it as something to rely on when you cannot avoid a mentally taxing situation and a serious problem is about to occur. I don't think I will be taken care of unless there is a major abnormality in my mental health.	-2.13
体のケアと同じぐらい心のケアは大切だと思っています。	I believe that taking care of the mind is as important as taking care of the body.	-2.14
自分の心が軽くなるような言葉をかけてもらえる印象。	I have the impression that I can receive words that lighten my mind.	-2.21
患者の精神状態次第では効果的でない場合もあるように思う。	I think it may not be effective depending on the mental condition of the patient.	-2.39
どこまで解決できるのか疑問に思っている	I wonder how far they can go in resolving the problem.	-2.41
本当に病気でなくともならない状態であることも、相談できると思っています。	I believe that I can talk to them even if I am not really sick and in a helpless state.	-2.61
自分の気持ちを話してどうなるのが気になる。カウンセラーとは、どんな人なのか、逆 言立ってしまわないのか、心理が不安定な時に行くのは少し怖い気がする。	I am concerned about what will happen if I talk about my feelings. I feel a little scared to go to a counselor when my psychology is unstable, wondering what kind of person he/she is and whether or not I will get frustrated in the opposite direction.	-2.62
本当に信頼できる相手かどうか、判断が難しいと思う。	I think it is difficult to judge whether or not I can really trust them.	-2.69

Note. PC = principal component.

Table 4. Image of Psychosomatic Medicine/Psychiatry

Japanese text (original)	English text (translated)	PC 9
鬱などの重めのメンタルを解決してくれるようなイメージです。	The image is like a solution to depression and other heavy mental health problems.	2.63
暗い印象	A gloomy impression	2.67
縁遠いイメージ	An image of being out of touch	2.27
精神的に崩壊しているもしくは、閉じ込めておくところというイメージがあります。	There is an image of a place that does not "heal" the wounded but keeps them locked up.	2.26
自分としてはあまりネガティブな印象はないが、いまだにネガティブな印象を持っている人が多い	Not a very negative impression for me, but many people still have a negative impression of it	2.20
精神状態が不安定な人がいくイメージで、あまり縁がない物だという印象です。	I have the impression that it is a place where people with unstable mental conditions go, and that it is something that they don't have much connection with.	2.19
精神疾患の人たちが通院していて全体的に重苦しそうなのイメージがある	I have an image of a place where people with mental illnesses go and the overall atmosphere seems grim.	2.19
精神的に崩壊しているもしくは、しそうな方が利用するものという印象。	I have the impression that it is used by people who are or are likely to be mentally disintegrated.	2.18
極一部の悪事を働く人たちのせいであり印象が良くないし、全体的に怖いイメージがある	I don't have a good impression because of a very small number of people who do bad things, and I have a scary image overall.	2.13
日本ではまだまだ偏見が多く、敬遠されているような印象です。	There is still a lot of prejudice in Japan, and the impression is that it is shunned.	2.10
Image of negative, dark, heavy, distant. It also focuses on who to use. Image as "treatment" association with medicine, drugs, hospitals, and doctors. Relatively positive. Also focus on a therapist or who to treat		Younger Older
SNSと違い、直接医師の顔を見て話が出てくるので安心です。もちろん絶対には情報に他に漏れる心配もありませんし、必要に応じて薬の処方もしていただけます。	Unlike social networking sites, you can talk directly to the doctor face to face. Of course, there is absolutely no worry about information being leaked to others, and if necessary, the doctor can prescribe medication.	-2.55
医師との相談することで、処方箋や相談、アドバイスをもらえる あまり予約が取れない。親身に相談に乗ってくれれば医師次第。 薬漬けにされそう	By talking to a doctor, you can get prescriptions, consultations, and advice. I don't get many appointments. It depends on the doctor whether he/she is friendly and helpful. I'll be drugged.	-2.59 -2.64 -2.65
とりあえず薬を処方する	Prescribe medicine anyway.	-2.67
親身になってくれているのが分かり、頼りになる	I know they are friendly and I can rely on them	-2.92
専門的な知識を持った先生が相談に乗ってくれそうで科学的な根拠を持った治療をしてくれそう	I can see that the doctor has professional knowledge and is likely to consult with me and give me a treatment with a scientific basis	-2.97
医者との信頼・料金設定・処方される薬・など気になる点が多いですが、相性が良いと確信出来れば、利用価値は高いと思います。	There are many things to be concerned about, such as trust with the doctor, fee setting, prescribed medicine, etc. However, if you are convinced that the doctor is a good match, I think it is worth using the clinic.	-3.12
きちんと医学的に診断してもらえそう 病院なのでしっかり相談できそう。	I think I can get a proper medical diagnosis. It is a hospital, so I will be able to consult with them.	-3.32 -3.35

 $r = -.14$

(Table 4 continued)

Japanese text (original)	English text (translated)	PC 10
孤独、暗いイメージ。カウンセリングより更に重度の症状を持っている方が利用するイメージ。 ストレスが溜まりそう 気圧には利用できない印象。他人に勧められた場合に、利用するイメージがある。	Lonely, gloomy image. Image of being used by those who have even more severe symptoms than counseling. Seem to accumulate stress. I have the impression that it is not a place that can be used casually. I have an image that they are recommended by others.	2.85 2.43 2.40
精神的に辛くなった人や、それが原因で身体の調子が悪くなった人が利用するところ。 精神的に辛い時に相談したり出来る 病院に行く、というイメージがわかり、病院へ行く＝病気というイメージになるので、少し敷居が高く感じられる。ちょっととした心の辛さだけでも、行っても良いのか気にしてしまう	People who are mentally ill or who have physical problems due to mental illness use this place. I can consult with a doctor when I have a hard time mentally. The image of going to a hospital comes to mind, and going to a hospital = illness, which makes it seem a little more difficult to approach. Even if you are feeling just a little bit of pain, you wonder if you should go to a hospital.	2.38 2.33 2.30
心療内科であれはうつ病やPTSDの人が通うイメージ。精神科になると精神鑑定のような重そうなイメージ。 精神科は本当に心が病んでしまっている人が利用している最後の砦のような印象がありますし、心療内科はその一歩手前の段階の人が利用しているようです。特に精神科は近付きがたい印象です。 行きにくいイメージ 誰にも言えない悩みを打ち明けたり、相談にのってもらうところ。主に女性が利用している場所。	If it is a psychosomatic medicine department, the image is that people with depression or PTSD go there. Psychiatry seems heavy, like a psychiatric evaluation. I have the impression that psychiatry is like a last resort used by people who are really mentally ill, and psychosomatic medicine is used by people who are at the stage before that. In particular, psychiatry gives the impression of being inaccessible. Image of difficulty in going there. A place where you can confide your problems that you can't tell anyone or get advice. A place used mainly by women.	2.24 2.14 2.13 2.12
Heaviness and negativity. Focus on when and who use it The image as a drug-centered "treatment". Relatively positive. 薬で治す治療だと思っています。医者が対応するので、一番レベルが高い治療だと思っています。 カウンセリングだけではなく、薬の処方も含めて治療してくれるという印象です。 医師であり、基本的に、診察と投薬が中心で治療方針を立てることが多く、あまり患者に寄り添って話を聞くというイメージがありません。 受診したことがあるがあまり話を聞いてくれなかった。 相談を聞くだけでなく、薬を使った改善法も示してくれる。 カウンセリングではなく薬による治療がメインのところが多いという印象を持っています。 医者の判断なので、尊重する 薬を処方してくれるが、期待するほど傾聴してくれない。 現代に多くの人に必要なのであると強く思います。 病院で先生に悩みを聞いてもらいたい治療してもらおうところだとおもいます	I think the treatment is to cure with medication. I think it is the highest level of treatment because the doctor handles it. I have the impression that they treat the patient not only with counseling but also with prescribing medication. He is a physician, and basically, his treatment plan is mainly based on consultation and medication, and I don't have the impression that he listens to his patients too closely. I have seen a doctor and he did not listen to me much. They not only listen to my counseling, but also show me how to improve with medication. I have the impression that the main focus of many places is treatment with medication, not counseling. It is the doctor's decision and I respect it. They prescribe medications, but they don't listen to me as much as I expect them to. I strongly believe that this is what many people in the current generation need. I think it's where you go to the hospital to have the doctor listen to your problems and treat you.	Younger Older -2.01 -2.01 -2.04 -2.04 -2.06 -2.08 -2.16 -2.26 -2.60 -2.94

$$r = -.16$$

(Table 4 continued)

Japanese text (original)	English text (translated)	PC 11
<p>薬居は高いが、その分ちゃんとした治療をしてくれるという信頼感がある。</p> <p>最初は薬居が高いと思ったが、事前に雰囲気等を調べておけば、そこまで怖いイメージはない。</p> <p>薬居が高くて、なかなか自ら受診しようとは思えない。内科などと違ってあまり行く機会がなく、暗いイメージがある。</p> <p>行くまでのハードルが高い。</p> <p>相談のスペシャリストだが、何うには少しハードルが高い。</p> <p>以前よりは薬居が低くなっているとは思いますが、やはり自分には行きづらい。</p> <p>最初は行きづらいかと思いましたが、行ってしまえば別に普通の病院と何ら変わりはない。ただ、先生の相性が大事だが、行ってみたいと分らないのが難点。また、常に混雑しているイメージで、予約が取りにくいのもハードルが低かった。</p> <p>あまり長く話は聞いてくれず、薬を出すだけでと通院したことがある知人が言っていたので相談を真剣に聞いてくれる印象はない。</p> <p>ちよつと薬居が高いが、必要不可欠な医療暗いイメージがあったが先生は明るい感じで問題なかった。</p>	<p>Although the entrance fee is high, I have a sense of trust that they will provide proper treatment for that reason.</p> <p>At first, I thought it was a high threshold, but if I had checked the atmosphere, etc. beforehand, I would not have had such a frightening image.</p> <p>It is difficult for me to go to see a doctor by myself because of the high threshold. Unlike internal medicine, I don't have many chances to go to a doctor's office, and I have a gloomy image.</p> <p>There is a high hurdle to go to a doctor's office.</p> <p>Although they are specialists in consultation, the hurdle to visit them is a little high.</p> <p>I think that the threshold is lower than before, but it is still difficult for me to go there.</p> <p>At first I thought it was difficult to go there, but once I got there, it was no different from a regular hospital. The only problem is that you don't know if the doctor is a good match, but you don't know until you go. Also, the image of the hospital always being crowded, and it was hard to get an appointment, which was another hurdle.</p> <p>I don't get the impression that they take consultations seriously, as someone I know who has been to the hospital said they don't listen to you for very long and just give you medicine.</p> <p>A little bit expensive, but essential medical care.</p> <p>I had a gloomy image, but the doctor was cheerful and there was no problem.</p>	<p>3.11</p> <p>3.10</p> <p>2.90</p> <p>2.65</p> <p>2.59</p> <p>2.58</p> <p>2.57</p> <p>2.54</p> <p>2.53</p> <p>2.48</p>
<p>The high threshold for use. The high threshold also leads to a sense of trust to some extent.</p> <p>Relatively positive.</p> <p>Negative image. Not only the heaviness, but also the distrust and anxiety about being drugged, mind-controlled, etc.</p>	<p>Likely to be properly medically diagnosed.</p> <p>Depression and other mental illnesses are becoming more familiar than before. However, unlike counseling, I have a sense of resistance to psychosomatic medicine and psychiatry at hospitals. I feel uneasy when I think about what would happen if my acquaintances knew about my illness.</p> <p>These institutions offer more specialized psychological treatment. They offer more advanced treatment using tranquilizers and other drugs in addition to the usual counseling. However, there are significant social disadvantages to being diagnosed with psychosis, and there are also the side effects of medication. It is difficult to use the services casually.</p> <p>If I use it, it may affect my employment or marriage.</p> <p>I have used the drug before. It helped me a lot when I was at the bottom of my life. It is an indispensable service in the world.</p> <p>I think people who can't see tomorrow will use this service.</p> <p>Seems to cause a lot of stress</p> <p>I feel depressed</p> <p>I'm likely to be mind-controlled.</p> <p>Likely to be drugged.</p>	<p>Younger</p> <p>Older</p> <p>-1.94</p> <p>-1.99</p> <p>-1.99</p> <p>-2.06</p> <p>-2.12</p> <p>-2.32</p> <p>-2.67</p> <p>-2.79</p> <p>-2.88</p> <p>-3.44</p>
	<p><math>r = -.12</math></p>	

(Table 4 continued)

Japanese text (original)	English text (translated)	PC 19
追い込まれたときに行く場所	A place to go when you're in a bind.	3.95
本格的に治療が必要な人がいくところ	A place where people who need serious treatment go.	3.80
行こうか本当に迷った時期はありました。その場の空気でさらに落ち込みそうなイメージがあります。	There was a time when I really wondered if I should go there, but I have an image that I would go there and feel even more depressed by the atmosphere of the place.	3.47
行くのに躊躇しそう。	I would hesitate to go.	3.28
行くのに決心が必要。	Need to make up my mind to go.	3.19
行くまでのハードルが高い	The hurdle to go is high.	3.14
気持ちの問題ではなく病気の治療のために行くところ	A place to go for treatment of illness, not for feelings.	3.01
個んでいる人が行く場所	A place where people in distress go	2.97
深刻な状態の人がいくところ	A place where people in serious condition go.	2.82
一回行ったら、そのあと、定期的に続けて行く必要があり、終了が無いイメージ。	Once you go, you need to continue going regularly, and there is no end in sight.	2.80
Hesitation to go. Goes only in a serious case. Gloomy image. Social gaze and prejudice.		
縁遠いイメージ	Image of being out of touch?	-2.31
今まさに心療内科を受診しているで自分にとっては身近な存在。	It is familiar to me because I am seeing a psychosomatic medicine doctor right now.	-2.35
職場でうつ病になってしまいう方も多く、誰にでも関係する身近な存在だと思います。	There are many people who suffer from depression in the workplace, and it is a familiar presence related to everyone.	-2.38
自分にとっつてはなくてはならない存在だけど、まだまだ偏見が多く、通院していることを気遣いに話せない。	It is an indispensable presence for me, but there is still a lot of prejudice and I cannot casually talk about my visit to the hospital.	-2.40
胡散臭い	It smells bad to me	-2.54
鬱と向き合う	Facing depression	-2.55
心療内科などは一昔前なら利用をすることを避ける人も多かったと思うが、今は認知もだいぶ広がってきているので、懐疑的な印象はない。若い人でも通う人がいるということを知りたいです。心療内科などがあるから心療内科などは世間の認知では一般的な印象に変わったんだと思う。	A decade ago, many people would have avoided using psychosomatic medicine, but now that it is much more widely recognized, I don't get the impression that people are skeptical. I have heard that there are even young people who go to psychosomatic medicine, so I think that psychosomatic medicine has become a common impression in the public perception.	-2.56
いまだに偏見を持つ人が多いと思うので利用する時には近所の目を気にすると思う。	I think there are still many people who have prejudice against psychosomatic medicine, so I would be careful about what my neighbors think when I go there.	-2.60
以前と比較すると最近では精神疾患を患って心療内科や精神科を受診する人が大幅に増えているという印象があります	Compared to the past, I have the impression that the number of people visiting psychosomatic medicine and psychiatry with mental illnesses has increased significantly recently	-2.96
陰鬱	gloom and depression	-3.61

$r = -.12$

Younger  
Older

Note. PC = principal component.

effectiveness of SNS counseling represented in the negative side of PC 10 did not come from older participants, but males tended to have such an image. Although the exact reason for the better awareness and more positive image of SNS counseling among females (and those of other genders) is not clear, the result is consistent with the previous finding that users of counseling services tend to be female and that this tendency is stronger for web-based services than face-to-face ones (Rickwood et al., 2016). It is also possible that the types of friends males and females have on social networking sites may differ.

For PC 14, age remained a significant predictor after controlling for demographic variables ( $t = 2.64, p = .009$ ). PC 14 was also negatively related to lower residential mobility and not being a student ( $ts > 2.03, ps < .05$ ). That is, the anxiety about not seeing the face and about the expertise of the counselor was stronger for those with lower residential mobility and for non-students. The effect of mobility is consistent with a previous finding that lower regional residential mobility was associated with less text-based help-seeking (Thompson et al., 2018). People with lower residential mobility are less likely to have the opportunity to talk to strangers, and therefore might become anxious when they cannot see the face of an interaction partner.

For PC 15, age remained a significant predictor after controlling for demographic variables ( $t = 2.12, p = .035$ ). LINE use was the only other variable that marginally predicted PC 15 ( $t = 1.95, p = .052$ ). The anxiety about privacy might stem from and/or have a common root cause as not using LINE, rather than simply being anxiety about SNS counseling in general. In fact, older participants tended to use Facebook ( $r = .10, p = .011$ ), and Facebook use was not significantly related to PC 15 ( $t = .244, p = .81$ ). Facebook might thus be a potential medium for SNS counseling for older populations.

A more systematic and extensive investigation of the effects of demographic variables on images of psychological counseling and psychosomatic medicine/psychiatry is beyond the scope of the current article. Nonetheless, we examined the age effects, controlling for the effects of demographics. Age remained a significant predictor for all PCs except for the image of psychosomatic medicine/psychiatry in PC 9, where age was only a marginally significant predictor ( $t = 1.86, p = .063$ ).

## DISCUSSION

The current study investigated generational differences in the image of SNS counseling, a Japanese text-based online counseling service, in comparison to images of psychological counseling and psychosomatic medicine/psychiatry. Overall, some components of the images of each service were significantly correlated with age, suggesting generational differences in these images.

For younger participants, the image of SNS counseling was clustered around “lightness.” SNS counseling was considered easy to use and the topics covered in it to be light. This image of “lightness” contrasted with the image of psychosomatic medicine/psychiatry that clustered around “heaviness.” Psychosomatic medicine/psychiatry

was considered to be heavy, serious, difficult to use, and (psychologically) distant. Older participants generally had similar images of SNS counseling and psychosomatic medicine/psychiatry along the axis of “light” and “heavy,” but with different connotations. For older participants, SNS counseling was more untrustworthy, evoking anxiety about not seeing the face of the counselor and their expertise, and about privacy and security issues. Psychosomatic medicine/psychiatry was considered more serious and associated with medical treatment. The connotation of the “lightness” of SNS counseling was, therefore, relatively positive in younger participants and the connotation of the “heaviness” of psychosomatic medicine/psychiatry was relatively positive in older participants, though both generations noted both positive and negative aspects of “lightness” and “heaviness.” SNS counseling aimed to be a more accessible mental health service for younger generations. This result empirically confirmed the assumption that younger generations have a relatively positive image of SNS counseling that clusters around “lightness.” These generational differences remained significant after controlling for demographic variables.

General generational differences, especially in terms of the image of psychological counseling and psychosomatic medicine/psychiatry, were found in aspects related to more traditional mental health services. Younger participants tended to focus on the client and the counseling itself. Older participants tended to focus on the counselor and the outcome of the counseling. This generational difference might stem from familiarity with mental health services. Younger participants might have had more direct experiences of mental health services, such as through school and industrial counseling. With more concrete experience with mental health services, younger participants might feel (psychologically closer) familiar with mental health services (Trope & Liberman, 2010). They might therefore consider themselves as potential clients and be able to imagine how counseling works.

To date, the image of text-based online counseling has been investigated only among younger users (Evans et al., 2013; Gibson & Cartwright, 2014; King et al., 2006; Navarro et al., 2019). This estimated image is inevitably biased because younger users are likely to have a more positive image that initially motivated them to use the service. The current study surveyed the broader population, most of whom had not used text-based online counseling before (Hatanaka, 2022), providing a more unbiased estimate of the public image. The current study revealed not only potential reasons people may use text-based online counseling (e.g., younger generations considering text-based online counseling more accessible) but also potential reasons they may avoid it (e.g., older generations feeling anxious about using the service).

The previous research on online mental health services, particularly on the image of text-based online counseling, has mostly focused on WEIRD samples (Mathieu et al., 2021). The current study investigated the image of text-based online counseling among Japanese. Although the current study adopted an indigenous approach and does not provide a rigorous cross-cultural comparison, it does provide some clues to potential cultural differences. Previous research conducted with young users in WEIRD samples has suggested that text-based online counseling is perceived as safe and that users feel



protected because of their anonymity. One specific aspect of this feeling of safety was that users were able to avoid intensive emotional communication, including being judged and being ashamed (Evans et al., 2013; Gibson & Cartwright, 2014; King et al., 2006; Navarro et al., 2019). This kind of safety, especially in relation to the counselor, was not extracted in the current investigation of generational differences, except for two references: nervousness about talking to a counselor being mitigated and one reference to Taijin-Kyofu (PC 10 and 15; Table 2). This difference might reflect cultural differences in the acceptability of shame-related emotional states. Shame is an emotion that is evoked by perceived negative evaluation by others, and is a more condemned and less frequently experienced emotion in North American contexts compared to the Japanese context (Boiger et al., 2013). In other words, shame and perceived negative evaluation by others are more frequently experienced, and therefore more valued and less threatening (i.e., more condoned) in the Japanese context (Boiger et al., 2013). In the North American context, shame is experienced less often in daily life, but one exception to this is in clinical contexts. In clinical contexts, people need to admit their weaknesses to a counselor. North Americans may feel vulnerable when doing this, and feeling shame/vulnerable violates the North American norm of having positive self-regard (e.g., Imada & Yussen, 2012). Perceiving negative evaluation by the counselor might be more threatening for North Americans. Anonymity and/or text-based communication itself might mitigate this threat, especially in North American or WEIRD contexts. It should be noted, however, that LGBT-related issues are more frequently disclosed in text-based online counseling in Japan (Sugihara, 2022), similar to how online mental health services are more accessible among people who identify as LGBT in Australia (Rickwood et al., 2016). Psychological safety might be a perceived advantage of text-based online counseling in Japan as well, but more detailed investigations of cultural universality and differences in the perceived safety of text-based online counseling is necessary.

### *Methodological Implications*

Along with the development of computational power and techniques, more machine-based text analysis methodologies are becoming available for use in psychological research (D’Mello et al., 2022; Jackson et al., 2022; Nakayama & Uchida, 2020). These machine-based methods allow the scaling up of data analysis with more objective and reproducible procedures. The current study demonstrates that deep learning-based methods are useful for analyzing texts to contribute to psychological research.

### *Limitations and Future Directions*

The current study successfully explored and described generational differences in the image of SNS counseling and other mental health services, but is not without limitations. The age differences were relatively small, albeit significant. Effect sizes were up to  $|r| = .17$ , suggesting that these generational differences should be interpreted as population level differences. For example, one arbitrary young participant quite probably does not have an image of “lightness” for SNS counseling and one arbitrary older participant quite probably does not have an image of “heaviness” for psychosomatic

medicine/psychiatry. That said, the current study still has implications for population level interventions. SNS counseling is, for example, typically introduced as a public mental health service by national and/or local governments, organizations or schools to target a population rather than specific individuals. Population level interventions might still work, such that addressing the positive aspects of the “lightness” of SNS counseling might be effective for younger generations and that involving medical doctors in SNS counseling may increase trust in the service among older generations.

The current investigation of generational differences is descriptive, and future research needs to specify the source of these differences and/or identify variables that explain differences in the images of SNS counseling beyond generational effects, in order to facilitate the development of finer-grained interventions that can change the image of SNS counseling and/or allow it to reach broader generations and populations. Although most of the generational differences remained significant after controlling for the measured demographic variables, unmeasured variables could still explain the generational differences we found. For example, income and/or economic status was not measured in the current study, but it could influence the image of SNS counseling. In general, younger generations are assumed to have lower income compared to older generations. Income level might affect the image of SNS counseling because it is typically provided for free as a public mental health service. Although financial issues appeared only a couple of times in the age-related PCs for SNS counseling in the current investigation, the elimination of financial barriers could be related to the image of “lightness” for younger and low-income people in particular. Education level might also affect the image of SNS counseling. Effective text-based communication requires a relatively high level of language skill, so education level might be related to the perceived effectiveness of SNS counseling. We also did not examine participants’ exact reasons for using SNS, even though we examined the frequency of use of different types of SNS. The image of SNS counseling might be affected by different purposes of SNS use such as personal communication, group-level communication, or information gathering. Future research should systematically examine how these demographic variables are associated with images of SNS counseling.

Although we controlled for the effect of prefecture of residence as a random effect, future research needs to examine the effects of finer-grained geographical factors. Within a prefecture, some areas are more rural, and different areas might differ on economic dimensions (e.g., whether the main industry is farming or fishing) and on other dimensions. These geographical and ecological factors relate to psychological processes in general (Talhelm et al., 2014; Uchida et al., 2019), prevalence of depressive symptoms (Kanamori, Hanazato, Kondo, et al., 2021; Kanamori, Hanazato, Takagi, et al., 2021), and more specifically, use of text-based counseling (Thompson et al., 2018). Indeed, lower residential mobility was found to be associated with anxiety about not seeing the counselor’s face and about the expertise of the counselor in SNS counseling. This finding explains the lower use of text-based counseling in regional, low residential mobility areas (Thompson et al., 2018). Given SNS counseling has the potential to provide aid to people experiencing physical isolation in rural areas (Dwyer et al., 2021),

future research needs to examine the relationship between geographical and ecological factors and images of SNS counseling to reach people in need.

The current study quantified text-based descriptions of images of mental health services, correlating them with age. This quantification was achieved by using a pretrained BERT model. The model does not utilize built-in rules and algorithms but develops representations via learning. The learned representations (i.e., vectors) still need to be interpreted by researchers. The results of the current study are not entirely derived from an objective and automated procedure but are in part based on subjective judgements. With this limitation in mind, the current study can still contribute to the development of hypotheses, theories, and scales to measure images of mental health services that should be further tested in future studies.

### Conclusion

SNS counseling has been implemented to reach younger generations with the assumption that counseling via SNS is more accessible to them. The current investigation confirmed this assumption by empirically demonstrating that the image of “lightness” produced a relatively positive image of SNS counseling among younger generations compared to older generations. The current text analysis also revealed a more nuanced understanding of this image of “lightness” as having negative as well as positive connotations. These more nuanced descriptions of its image may contribute to developing strategies to increase the accessibility of SNS counseling for potential users beyond the youth.

### AUTHOR’S CONTRIBUTION

M.N., C.H., Y.Suzuki. collected data for the study; M.N. conducted the data analyses and wrote the first draft; all authors reviewed, revised the draft and approved of the final manuscript.

### CONFLICT OF INTEREST

The authors declare no conflict of interest.

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